



ARIZONA SCHOOL FACILITIES BOARD

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School Deficiencies Corrections Program

**PROJECT MANAGEMENT PROCEDURES**

May 31, 2001

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## **Introduction**

This procedure is written for the use of project managers in their planning and managing of Arizona School Facilities Board projects at the various school districts around the state. It is presented in a summary and bulleted style to facilitate maximum function and usefulness to the managers.

The procedure is not intended to dictate every action required of a project manager during the course of the project. Every project management firm has its own style of delivery. It is, however, intended to depict the required flow for the projects from initialization to project close-out. It also outlines the essential activities, responsibilities, information requirements and issues that should be considered during the course of project execution.

The written section generally follows the activities and events shown on the flow charts in summary form. The narrative sections are written and organized to clarify or expand certain activities where the intent is not necessarily apparent or where enhancement is thought necessary.

## 1. Project Initialization Phase

- SFB Executive Director sends letter to District Superintendent identifying the quantity of projects recommended for approval with estimate of cost
- District approves recommendation
- District executes recommendation letter and returns to SFB
- ASFB approves the deficiency recommendations
- PM identification letter is faxed to the District(s); SFB announces authorization is being issued to commence design and construction
- Authorization to commence design letter prepared by SFB Executive Director
- Design Authorization Supporting document package is generated for each District
  - Package Contents:
    - Disposition of Assessment Deficiency Correction Projects Memo (exhibit 1)
    - Terms and Conditions (exhibit 2) to be executed and returned to SFB
    - Project(s) Acceptance Form (exhibit 3) to be executed and returned to SFB
    - Access Agreement (exhibit 4) to be executed and returned to SFB
    - Lump Sum Agreement for A/E Services (exhibit 5)
    - Architectural Fee Guidelines (exhibit 6)
    - PM Scope of Services (exhibit 7)
    - SCIP Insurance Package (exhibit 8)
    - Cooperative Purchasing Agreement (exhibit 9) to be executed and returned to the ASFB if cooperative purchasing is envisioned

**Note:** All documents in the initialization package must be presented and explained to the individual Districts by the PM.

## 2. Project Kick-off Meeting

- PM schedules appointments with District Superintendent(s) and appropriate school staff
- Project kick-off meeting with District(s) conducted by PM
  - *Minimum* items of discussion are:
    - Introduce management team
    - Explain initialization package
    - Identify action Items in package for Districts
    - Discuss project management scope of work
    - Discuss project process
    - Address status of A/E selection
    - Discuss construction phase safety and security issues
    - Discuss School District priorities and academic calendar constraints
    - Discuss Project Talk management control system

**Note:** *PM will repeat the above agenda at individual schools as necessary.*

**Note:** *PM's should not suggest scope increases beyond the approved deficiency correction items.*

### 3. Preliminary Work Plan

- PM develops preliminary work plan
  - *Minimum* content:
    - Design and construction management procedures
    - A/E procurement process
    - Preliminary budget
    - Preliminary schedule
    - Project management control systems
    - Construction procurement strategies
    - Packaging strategies (prioritization of projects)
    - Bidding process
    - Permit gathering
    - Construction process
    - Safety / Security issues
    - Calendar constraints
    - Energy conservation opportunities per executive order 2001-03

#### 4. A/E Selection Process

- Request for Proposal for A/E services document from SFB web site retrieved and completed by District

**Note:** *Districts may consider issuing separate RFPs for distinct packages or to limit package sizes.*

- Advertise RFP in appropriate media per article 10, School District Procurement Rules section R7-2-1022 and R3-2-1042

**Note:** *The project manager in cooperation with the Districts should begin A/E selection as soon as authorization is received from SFB.*

- PM and District define proposal and interview scoring process
- District receives and time stamp proposals
- District evaluates proposals
- District shortlists firms
- District defines interview panel
- District schedules interviews
- District interviews firms
- District recommends selection of A/E firm(s)
- PM negotiates fee based on pre-established A/E fee guidelines
- SFB reviews the Lump Sum Agreement and the District executes the Lump Sum Agreement for A/E services

**Note:** *Districts can forgo the RFP process and negotiate with an A/E currently under contract with another District, selected for deficiency projects, through a cooperative purchasing agreement.*

## 5. Pre-design Project Analysis Meeting

- The pre-design meeting is conducted by PM
  - *Minimum* items of discussion are:
    - Introduce management team (District and PM)
    - Project management scope of services
    - A/E scope of services
    - Safety / Security issues
    - Design submittal process
    - Points of contact and 24 hour emergency numbers
    - Web based project management control system
    - Budgets
    - Schedules
    - Special priorities and constraints
    - Potential scope additions or enhancement paid for with District funds
- Subsequent pre-design activities
  - Scope of work for each school in each District visually validated in field by A/E
  - A/E prepares design narrative per scope of A/E contract including schedule for delivering the requisite scope of work
  - Design understanding report issued to District and PM for review
  - A/E edits and resubmits if required
  - District approves design narrative
  - Authorization to commence with Schematic Design is issued in writing by the District to A/E and copied to PM



## 6. Updated Work Plan

- Work plan updated by PM
  - *Minimum* areas to be covered:
    - Design and construction delivery strategies
      - A/E assignments
      - Bid packaging strategies
      - Procurement methods
      - Opportunities and constraints
    - Update energy conservation plan
    - Update master schedule to include:
      - Bid packaging strategies
      - Procurement methods
      - A/E delivery schedule
      - Individual facility opportunities and constraints
    - Update master budget to include:
      - Project costs
        - PM
        - A/E
        - Other costs identified
      - Construction costs
        - Base SFB costs of construction
        - ASFB Supplementary Projects
        - District Scope Enhancements (separate)
- Update Project Management Controls system as required

## 7. Design Phase

### Design Phase Submittals

#### ***Schematic Design***

- Architect submits Schematic Design per scope of A/E Contract to District and PM for review
  - Design reviewed for:
    - Scope Compliance
      - Scope compliance moves to budget check
      - Scope non-compliance goes to SFB /District funding approval
    - Budget Compliance A/E estimate review
      - Budget compliance moves to schedule check
      - Budget non-compliance goes to SFB /District funding approval
    - Schedule Compliance
      - Schedule compliance moves to authorization to proceed with Design Development
      - Schedule non-compliance goes to SFB /District funding approval
- SFB scope enhancements identified
  - Estimated cost defined
  - Schedule impact defined:
    - SFB approves funding: enhancement becomes design phase change order to Design Development
    - SFB denies funding: enhancement is removed by A/E
- District scope enhancements identified
  - Estimated cost defined
  - Schedule impact defined:
    - District approves funding: enhancement becomes design phase change order to Design Development phase
    - District denies funding: enhancement is removed by A/E
- Value analysis conducted by PM
- Potential long lead items identified by A/E
- Design phase change order(s) identifying scope change, budget and schedule impacts prepared by PM as required
- Design phase change order issued for approval and return

- Approved design phase change issued to A/E
- Scope, budget and schedule approved by District
- District authorizes A/E to proceed to the design development
- PM updates master schedule and budgets

### ***Design Development***

- Architect submits Design Development per scope of A/E Contract to District and PM for Review
  - Design reviewed for:
    - Scope Compliance
      - Scope compliance moves to budget check
      - Scope non-compliance goes to SFB /District funding approval
    - Budget Compliance A/E estimate review
      - Budget compliance moves to schedule check
      - Budget non-compliance goes to SFB /District funding approval
    - Schedule Compliance
      - Schedule compliance moves to authorization to proceed with Construction Documents
      - Schedule non-compliance goes to SFB /District funding approval
- SFB scope enhancements identified
  - Estimated cost defined
  - Schedule impact defined:
    - SFB approves funding: enhancement becomes design phase change order to Design Development
    - SFB denies funding: enhancement is removed by A/E
- District scope enhancements identified
  - Estimated cost defined
  - Schedule impact defined:
    - District approves funding: enhancement becomes design phase change order to Design Development.
    - District denies funding: enhancement is removed by A/E
- Value Analysis conducted by PM
- Constructability and Coordination review conducted by PM
- Long lead items identified by A/E
- Modify scope, budget, schedule only by design phase change order

- Scope, budget and schedule approved by District
- District authorizes A/E to proceed to the Construction Documents phase
- PM updates master schedule and budgets as necessary
- PM commences bidder awareness program

### ***Construction Document***

- Architect submits Construction Documents per scope of A/E Contract to District and PM for Review
  - Documents reviewed for:
    - Scope Compliance
      - Scope compliance moves to budget check
      - Scope non-compliance goes to SFB /District funding approval
    - Budget Compliance A/E estimate review
      - Budget compliance moves to schedule check
      - Budget non-compliance goes to SFB /District funding approval
    - Schedule Compliance
      - Schedule compliance moves to authorization to proceed with Construction Documents
      - Schedule non-compliance goes to SFB /District funding approval
- SFB scope enhancements identified
  - Estimated cost defined
  - Schedule impact defined
    - SFB approves funding: enhancement becomes design phase change order to Construction Documents
    - SFB denies funding: enhancement is removed by A/E
- District scope enhancements identified
  - Estimated cost defined
  - Schedule impact defined
    - District approves funding: enhancement becomes design phase change order to Construction Documents
    - District denies funding: enhancement is removed by A/E
- Value Analysis conducted by PM
- Constructability and Coordination review conducted by PM
- Long lead items identified
- Modify scope, budget, schedule only by design phase change order

- Scope, budget and schedule approved by District
- District authorizes A/E to proceed to the construction procurement
- PM updates master schedule and budgets as necessary

## 8. Construction Procurement Phase

### Design/Bid/Build

- PM prepares and advertises invitation for bid per article 10, School District Procurement Rules section R7-2-1022
- A/E prepares bidding document packages
- SFB/PM issues invitation for bid
- PM conducts mandatory pre-bid conference
- A/E receives information requests from contractors with a copy to the PM
- A/E issues addenda to contractors with a copy to the PM
- Contractors prepare bids (duration may vary by project scope)
- SFB/PM receives bids
- District, PM and A/E evaluate bids
- District, PM and A/E recommend lowest responsible bidders to SFB
- SFB approves bid recommendation
- SFB prepares standard Owner Contractor Agreement
- PM prepares notice of intent to award
- SFB awards contract

### CM at Risk

- SFB prepares CM at risk RFP
- SFB issues RFP
- SFB receives proposals
- District, PM and A/E reviews proposals
- District, PM and A/E recommend for approval by SFB
- SFB prepares standard CM at risk contract
- SFB Awards contract

**Note:** *CM at risk activities commence at completion of updated work plan phase.*

- Confirm compliance with project scope in all design phases (see design phase sequences)
- Confirm compliance with project budget in all design phases (see design phase sequences)
- Confirm compliance with project schedule in all design phases (see design phase sequences)
- Confirm incorporation of SFB project enhancements into design scope, budget, and schedule (see design phase sequences)
- Confirm incorporation of District enhancements into design scope, budget, and schedule (see design phase sequences)
- A/E completes Construction Documents
- Guaranteed maximum price prepared

- SFB reviews GMP
- GMP reconciled with CM
- SFB approves of GMP
- SFB prepares CM at risk contract
- SFB awards contract

## **Design / Build**

- SFB prepares Design Build RFP
- A/E establishes performance criteria (Schematic Design)
- A/E establishes site adaptation criteria (Schematic Design)
- PM verifies scope, budget, schedule parameters
- PM verifies SFB approved scope enhancements
- PM verifies District approved scope enhancements
- SFB issues RFP
- District, PM and A/E receive proposals
- District, PM and A/E review proposals
- District, PM and A/E recommend for approval by SFB
- SFB prepares standard design build contract
- SFB awards contract

**Note:** *Design Build Process commences at award of contract and end of schematic design.*

- Confirm compliance with project scope in all design phases (see design phase sequences)
- Confirm compliance with project budget in all design phases (see design phase sequences)
- Confirm compliance with project schedule in all design phases (see design phase sequences)
- Confirm incorporation of SFB project enhancements into design scope, budget, and schedule (see design phase sequences)
- Confirm incorporation of District enhancements into design scope, budget, and schedule (see design phase sequences)
- A/E completes Construction Documents
- Guaranteed maximum price prepared (GMP)
- SFB reviews GMP
- GMP reconciled with CM
- SFB approval of GMP
- Design Build Contract prepared
- Contract awarded

## **Job Order Contracting**

- PM prepares and advertises invitation for bid per article 10, School District Procurement Rules section R7-2-1022
- A/E prepares bidding document packages
- SFB issues invitation for bid
- PM conducts mandatory pre-bid conference
- A/E receives information requests from contractors
- A/E issues addenda to contractors
- Contractors prepare bids (duration may vary by project scope)
- SFB receives bids
- District, PM and A/E evaluate bids
- District, PM and A/E recommend lowest responsible bidders to SFB
- SFB approves bid recommendation
- SFB prepares standard Owner Contractor Agreement
- PM prepares notice of intent to award
- SFB awards contract



## **9. Conduct Pre-Construction Conference**

Items of discussion are:

- Introduction, Names, Addresses, Phone Numbers, After Hours Phone Numbers
- Administrative/General Conditions
  - Organization and Relationships
  - Communication and Correspondence
  - Submittals
  - Scheduling and Payments
  - Clarifications
  - Change Order Requests and Change Orders
  - Subcontractor Substitution
  - Liens and Stop Payments
  - Labor Law Enforcement - EEO
  - Insurance and Bonds
  - Site Survey, Utilities Location, Legal Description
  - Future Meetings
- Jobsite Coordination Items
  - Record Drawings
  - Inspections and Testing
  - Safety - Permits - First Aid
  - Work Hours
  - Supervisor
  - Utilities and Services
  - Security Procedures
  - Parking
  - Storage
  - Utility Interruption
  - Field Office and Equipment

## **10. Construction Phase**

Construction will be administered on each project per the scope of PM services.

### **Site Visitations/Field Reporting**

- PM will visit every site on a daily basis and file a field report in the Project Management Controls System
- Field reports will be prepared per visit but not less than weekly by the A/E and entered into the Project Management Controls System
- Field reports will be prepared and maintained daily by the Contractor for each project site.

### **Weekly Meetings**

- PM will conduct meetings on every project with contractors and appropriate others on a weekly basis  
Items of discussion at a minimum are:
  - Introductions
  - Previous meeting minutes review and acceptance
  - Action item status
  - Technical concerns and problems
  - Requests for Information (RFI)
  - Submittal status
  - Change order request status (COR)
  - Change order status
  - Schedule status
  - Progress payment status
  - Safety / Security issues
  - Non conforming work status
  - As-built status
- PM will prepare meeting minutes and enter them into Project Management Controls System

### **Monthly Report**

- PM will prepare a monthly report.
  - *Minimum* that report will address:
    - Budget status of every project in every District
    - Schedule status of every project in every District
    - Issues of note on projects that warrant SFB attention by project and District

### **Schedule Management**

- PM will review and update master schedules for all projects on a monthly basis. Schedule update will be based on contractor cost loaded schedule or contractor current schedule with base lines (see payment application process)

- PM will notify District of all schedule deviations

### **Cost Management**

- PM will process all requests for change proposals and change orders
- **Change Order Request (COR)**
  - COR prepared by contractor and submitted to A/E and PM simultaneously
  - All information identifying scope and substantiating need for change is to be attached
  - A/E reviews COR and provides written comments to PM
  - PM reviews COR and combines PM and A/E comments to return to SFB
  - SFB determines:
    - If COR is justified:
      - Cost and schedule will be negotiated by PM and construction contract change order issued
    - If COR rejected
      - PM notifies contractor in writing of rejection and direction to proceed with the work.
  - COR will be logged into project management controls system when created
  - Project management controls will be updated at each subsequent transaction of the COR
- **Change Orders**
  - Change orders prepared by SFB
  - For each COR incorporated in the change order:
    - Substantiation information to be attached separately by COR number
    - Record of cost and schedule negotiations to be attached
  - Change Order issued by SFB to Contractor for execution and copied to A/E and PM
  - Contractor executes change order and returns to PM
  - PM distribute Change Order to A/E and SFB
  - Change Orders will be logged into Project Management Controls System when created
  - Project Management Control System will be updated by PM at each subsequent transaction of the change order
  - Project budget will be updated by PM to reflect change order
  - Project schedule will be updated by Contractor and electronically copied to PM

### **Contractor Applications for Payment**

- PM will receive and process Contractor applications for payment

- Contractor will update cost loaded schedule indicating percent complete of activities as basis of monthly application prepared by contractor and sequentially numbered to match payment application
- Schedule update submitted to PM
- Update reviewed by A/E and PM and returned to Contractor with comments
- Monthly Payment Application prepared by Contractor and sequentially numbered
- Payment application submitted to PM for review and recommendation.
- Payment Application submitted by PM to SFB for payment per attached flow diagram
- Payment applications will be logged into Project Management Controls System when created
- Project controls will be updated at each subsequent transaction of the payment application
- Project budget updated by PM to reflect payments
- Project schedule updated by Contractor to reflect progress and electronically copied to PM

### **Project Documentation**

PM will administer all project related documentation

- **Requests for information (RFI)**
  - RFI prepared by Contractor and sequentially numbered
  - RFI submitted to A/E for response and copied to PM
  - RFI returned by A/E and copied to PM
  - RFI will be logged into Project Management Controls System by PM when created
  - Project controls will be updated at each subsequent transaction of the RFI
- **Contract Required Submittals**
  - Submittals prepared by Contractor and sequentially numbered by CSI section and submittal number
  - Submittal delivered under transmittal to A/E for response. Transmittal copied to PM
  - Submittal returned under transmittal by A/E to Contractor. Transmittal copied to PM
  - Submittal will be logged into Project Management Controls System by PM when created
  - Project controls will be updated at each subsequent transaction of the submittal
- **Inspection Reports**
  - PM will coordinate contract required inspections and tests with Contractor and A/E:

- Inspection and test reports sent by Contractor to A/E by transmittal with transmittal copy to PM
  - Inspection and test reports reviewed by A/E
  - A/E returns written comments to Contractor with copy to PM if deficiencies discovered.
  - Contractor provides written remediation plan to A/E and PM
  - A/E approves plan
  - Contractor Implements plan
  - Testing and inspection will be logged into Project Management Controls System by PM when created
  - Project controls will be updated at each subsequent transaction of the testing and inspection reports
- **Notice of Non-Conformance (NNC)**
    - Notices of Non Conformance will be prepared by the A/E and sequentially numbered:
      - NNC sent by A/E to contractor with copy to PM
      - Contractor provides written remediation plan to A/E and PM
      - A/E approves plan
      - Contractor Implements plan
      - NNCs will be logged into Project Management Controls System by PM when created
      - Project controls will be updated by PM at each subsequent transaction of the testing and inspection reports
- **Architects Supplemental Instructions (ASI)**

**Note:** *These instructions are not to have cost or schedule impact on the project.*

- Supplemental Instructions will be prepared by the A/E and sequentially numbered
- ASI sent to contractor with copy to PM
- Contractor reviews ASI
- Contractor indicates cost or schedule impacts if any to A/E and PM
- If impacts noted COR process is followed
- Contractor Implements ASI if no impacts noted
- ASIs will be logged into Project Management Controls System by PM when created
- Project controls will be updated at each subsequent transaction of the ASI.

## **11. Project Close Out**

### **Substantial Completion**

- Contractor files written notice of substantial completion with list of items to be completed
- PM conducts inspection to validate
  - If complete, schedule final inspection
  - If not complete, notify contractor in writing
- Contractor remedies deficiencies
- Contractor issues second substantial completion notice
- Substantial completion inspection by A/E and PM scheduled and conducted
- A/E issues written list of deficiencies (punch list) that need to be corrected to the Contractor and copies PM
- Contractor corrects deficiencies
- PM prepares certificate of substantial completion
- Contractor provides certificates of inspection from governing agencies and certificate of occupancy

### **Contract Closeout**

- Contractor will furnish close out documents to the PM
- Evidence of compliance with governing authority requirements
- Certificates of Occupancy
- Certificates of Inspection by governing agencies
- Project record documents
- Operation and maintenance data
- Certification of training of required personnel
- Warranties and bonds
- Keys and Key schedules
- Spare parts and maintenance materials
- Evidence of payments and release of liens
- Final Completion recommendation to SFB by PM
- SFB accepts final completion
- PM prepares and processes final application for payment
- PM files notice of completion with governing authority